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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
| 10/578,379 | 05/05/2006 | Anne Ferreol | 4590-519 | 6614 |
| 33308 7590 03/15/2007 LOWE HAUPTMAN GILMAN & BERNER, LLP 1700 DIAGNOSTIC ROAD, SUITE 300 ALEXANDRIA, VA 22314 | | | EXAMINER MULL, FRED H | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 3662 | |
| SHORTENED STATUTORY PERIOD OF RESPONSE | | MAIL DATE | DELIVERY MODE | |
| 3 MONTHS | | 03/15/2007 | PAPER | |

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/578,379 | FERREOL ET AL. | |
| | Examiner | Art Unit | |
| | Fred H. Mull | 3662 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10-18 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 10-18 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 May 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Drawings

1. The drawings are objected to because:

Numbers, letters, and/or reference characters not plain, legible, and/or well defined. See 37 CFR 1.84(p).

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. The disclosure is objected to because of the following informalities:

It is standard US practice to include section headings such as "Background of the Invention" and "Summary of the Invention", and "Brief Description of the Drawings" to distinguish different portions of the specification.

On p. 5, line 24, "pour" has not been translated into English.

Appropriate correction is required.

Claim Objections

3. Claim(s) 10 is/are objected to under 37 CFR 1.75(i). Where a claim sets forth a plurality of elements or steps, each element or step of the claim should begin on a new line and be preceded with a line indentation. Plural indentations may be necessary to further segregate subcombinations or related steps. See MPEP §608.01(m).

4. Claim 11 is objected to because of the following informalities:

In line 1, --the-- should be inserted before “associating step”.

5. Claim 10 is objected to because of the following informalities:

The thing being localized is alternately referred to as “source” (lines 1 and 3) and “transmitter” (lines 5-6). Consistent terminology should be used.

6. Claim 10-14 are objected to because of the following informalities:

In some claims vectors are bolded (claims 10, 12, and some usages in claim 14) while in other they are not (claims 11, 13, and some usages in claim 14). Consistent usage is required.

7. Claim 11-14 are objected to because of the following informalities:

Not all variables used in the claims are identified in the claims. For example, *M*, *d*, and *v*. Note that the identification of *b*, which first appears in claim 12, should be in claim 12 and not subsequent claim 13. Further note that if all claim 13 does is define a variable used in claim 12, it is not adding any new limitations, and thus is in improper dependent form for failing to further limit the subject matter of a previous claim.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

8. Claims 10-18 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

On p. 6, lines 23-24, equation (3) is identified as an equation for determining the distance between two vectors. However, this does not appear to be correct. If you plug various vectors into the equation, it appears to determine a measure of closeness between the vectors, but not the actual distance. Specifically, for a given \mathbf{u} , if you use this function on various \mathbf{v}_i s, the $d(\mathbf{u}, \mathbf{v}_i)$ that is closest to a value of 1 corresponds to the \mathbf{v}_i that is closest in distance to \mathbf{u} . If \mathbf{u} and the \mathbf{v}_i s are normalized, it will give the \mathbf{v}_i with the closest direction to \mathbf{u} . Therefore, instead of minimizing the distance difference (or the direction difference in the normalized case) between \mathbf{a}_{km} and $\mathbf{b}_{i(m)}$ as stated in line 22, it identifies the \mathbf{b}_i where the distance difference (or the direction difference in the normalized case) with \mathbf{a}_{km} is smallest.

Applicant has not clearly described the origin of the $\mathbf{b}_{i(m)}$ vectors. On p. 5, line 24, equation (1), there appears to be M \mathbf{a} vectors but only one \mathbf{b} vector at each time t_k . The \mathbf{b} s in equations (3) and (4), do not appear to come from different times. What appears

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to be happening is that applicant is defining new **b** vectors, $\mathbf{b}_{i(m)} = \mathbf{b}_1 + \dots + \mathbf{b}_m + \dots + \mathbf{b}_M$, where $\mathbf{b}_m = \mathbf{a}_m$, where each \mathbf{a}_m is associated with an s_m , as in equation (1). In the localization procedure, first the **a** vectors would be measured, but it would not be known which of these corresponded to what signal s . Then, equations (3)/(4) would be operated on a first **a** and each of $\mathbf{b}_{i(m)}$ to find which $\mathbf{b}_{i(m)}$ corresponds to the first **a**. Once this is determined, the s that corresponds to the first **a** can be calculated. Presumably this would allow the identification of which source at a given time corresponds to the same source at a previous time. If not, how the signals from different times are associated with the same source should be specified, as it is essential to the invention. The procedure would be repeated for the $M-1$ remaining **a** vectors, and then repeated at a subsequent time. The $\mathbf{b}_{i(m)}$ vectors should be described when they are first introduced on p. 6, final ¶, rather than to be used undefined and obscuring an understanding of the invention until p. 9, final ¶, when one might start to figure out what is going on (assuming the examiner has identified it correctly). 35 U.S.C. 112 requires the disclosure to be in "clear, concise, and exact terms". Clarification is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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9. Claims 10-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Sheinvald (1998).

Sheinvald discloses:

one or more sources (abstract, lines 1-2);

each source being in motion relative to a network of sensors (abstract, lines 2-3; section VI, 1st ¶);

separating the sources in order to identify the direction vectors associated with the response of the sensors to a source having a given incidence (section VI.B);

associating direction vectors $\mathbf{a}_{1m} \dots \mathbf{a}_{Km}$ obtained for the m^{th} source and respectively at the instants $t_1 \dots t_K$, localizing the m^{th} source from the associated vectors $\mathbf{a}_{1m} \dots \mathbf{a}_{Km}$ (section VI.B).

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

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Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

10. Claims 10, 12-16, and 18 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 3-6, 8, and 12 of copending Application No. 11/085253. Although the conflicting claims are not identical, they are not patentably distinct from each other because:

An obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but an examined application claim is not patentably distinct from the reference claim(s) because the examined claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g. 46 USPQ2d 1226; 29 USPQ2d 2010; 225 USPQ 645. Although the conflicting claims are not identical, they are not patentably distinct from each other because current application claim 10 is generic to all that is recited in 11/085253 claim 1. In other words, 11/085253 claim 1 **fully encompasses** the subject matter of application claim 10 and therefore anticipates application claim 10. Since application claim 10 is anticipated by 11/085253 claim 1, it is not patentably distinct from 11/085253 claim 1. Thus the invention of 11/085253 claim 1 is in effect a "species" of the "generic" invention of application claim 10. It has been held that the generic invention is anticipated by the species (29 USPQ2d 2010). Since application claim 10 is anticipated (fully encompassed) by 11/085253 claim 1, application claim 10 is not patentably distinct from patent claim 10, **regardless of any additional subject matter present in 11/085253 claim 1.**

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In regard to claim 10, 11/085253 claim 1 includes all the same limitations of this claim with the addition of a couple of limitations drawn to source wavelengths.

In regard to claim 12, 11/085253 claim 3 adds the same limitations.

In regard to claim 13, 11/085253 claim 4 adds the same limitations.

In regard to claim 14, 11/085253 claim 5 adds the same limitations.

In regard to claim 15, 11/085253 claim 6 adds the same limitations.

In regard to claim 16, 11/085253 claim 12 adds the same limitations.

In regard to claim 18, 11/085253 claim 8 adds the same limitations.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fred H. Mull whose telephone number is 571-272-6975. The examiner can normally be reached on Monday through Friday from approximately 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas H. Tarcza can be reached on 571-272-6979. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

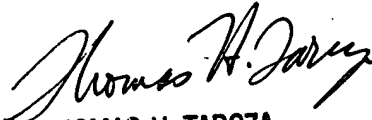
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

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Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Fred H. Mull
Examiner
Art Unit 3662

fhm


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